



Food and Technology

Written examination – November

Introduction

The Food and Technology design has been reviewed and includes some new content areas. The examination will address all examination criteria. The duration of the examination is 1 hour 30 minutes.

The following is a sample examination, which includes a set of five exam-style questions that have been written to demonstrate the format and style of questions that can be expected for the revised Food and Technology study end-of-year examination.

As in the past the examination may include a range of stimuli that students will need to refer to, such as data, case studies, articles, design briefs, photos and diagrams, in order to complete the questions. Most questions will involve short-answer responses and will cover key knowledge from all three outcomes in Units 3 and 4 of the study.

This sample examination has been developed to cover the new content within the study and highlight the most significant changes, while being consistent with the structure of typical examination questions.

Some of the new content areas that have been highlighted include

- the function of natural food components of key foods which includes protein
- the role and the relationship between national, state and local authorities in ensuring a safe food supply
- reasons for HACCP in preventing food spoilage and poisoning
- product marketing including ethical considerations and health claims
- composition of new and emerging foods including functional foods, novel foods and foods to meet particular dietary requirements and food sensitivities.

Students may now be assessed on the knowledge they gain through the completion of their design plan folio, as this content is covered in Unit 3 Outcome 3 and Unit 4 Outcome 1. Examination questions based on these outcomes may require students to apply knowledge that they have gained in other areas of the course or during the completion of their design plan folio to respond to a new design brief.



**Victorian Certificate of Education
2006**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Figures									Letter	
Words										

FOOD AND TECHNOLOGY
Written examination

Day Date 2006

Reading time: *. ** to *.** ** (15 minutes)**
Writing time: *. ** to *.** ** (1 hour 30 minutes)**

QUESTION AND ANSWER BOOK

Structure of book

<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
5	5	100

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
 - Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
 - No calculator is allowed in this examination.
- Materials supplied**
- Question and answer book of 15 pages.
- Instructions**
- Write your **student number** in the space provided above on this page.
 - All written responses must be in English.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

Instructions

Answer **all** questions in the spaces provided.

Question 1

Eggs are an example of a key food. They are an excellent source of the natural food component, protein.

- a. Identify **one** dry method and **one** wet method of cooking, appropriate for eggs, and give an example of a food product which could be produced using each method.

Dry method _____

Food product _____

Wet method _____

Food product _____

4 marks

The protein in eggs can perform a variety of functions in food preparation and processing.

- b. Complete the following table to identify **two** functions of the protein in eggs when preparing food and provide an example of a food product that is produced using each of the functions.

Function	Example of food product

4 marks

Fruits and vegetables are also examples of key foods.

- c. Identify an example of a fruit or vegetable _____

Complete the following table using the example identified above.

An example of the primary processing of the fruit or vegetable selected	Reason for primary processing	An example of the secondary processing of the fruit or vegetable selected	Reason for secondary processing

4 marks

Dehydration, freezing, the use of sugars, the use of acids, heat processing and canning are all examples of preservation techniques that can be used to prevent the spoilage of fruits and vegetables.

- d. i.** Select **two** of these preservation techniques and explain how each is able to preserve the fruit or vegetable identified in part **c**.

Preservation technique 1 _____

Preservation technique 2 _____

- ii.** Justify which of the techniques above would be most suitable for the presentation of the fruit or vegetable identified in **part c**.

4 + 2 = 6 marks

- e.** Identify and describe **one** environmental impact of the primary production of key foods.

2 marks

Plant breeding is an example of an innovation in food product development.

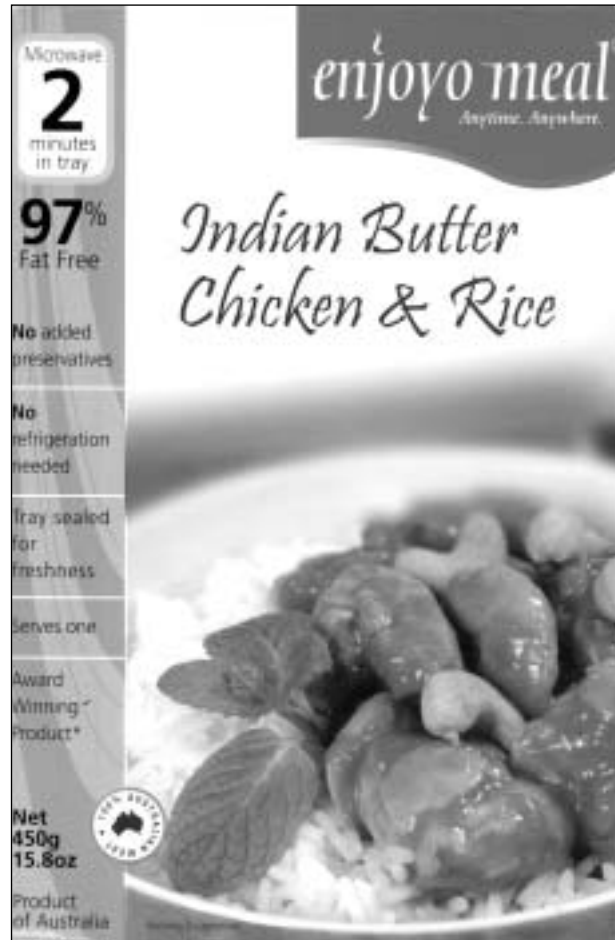
f. i. Explain how this innovation could be used to alter key foods.

ii. Outline **one** advantage of this innovation to the food industry.

2 + 2 = 4 marks

Total 24 marks

Question 2



Enjoyo meal® is a small range of convenient meals that are available in supermarkets.

Prior to the development of the new product range the following design brief was submitted to the product development department at Enjoyo-Meal International Pty Ltd.

The product range should be available as single-serve meals that come sealed in their own tray, include a variety of different international dishes and flavours, be 97% fat free, contain no preservatives, require no refrigeration, be able to be heated in the microwave or on the stove top and have a 12-month shelf life.

There are several important stages in product development that occur prior to the production of the product. These include development of a design brief and establishing criteria for evaluation.

- a. i. Identify **two** specifications from the design brief for the enjoyo meal® product range.

- ii. Develop **two** criteria for evaluation from the design brief.

2 + 2 = 4 marks

- b. Explain how consumer demands and technology may have influenced the development of this new product range.

Consumer demands

Technology

4 marks

According to the Food Standards Code, there are several components that must appear on the label of all food products.

- c. Identify **three** components that must appear on the food label of the new enjoyo meal® range and justify why each of these components are important for consumers.

Component 1 _____

Component 2 _____

Component 3 _____

6 marks

An evaluation of all stages in the development of the new range of products will have been undertaken to ensure that the products meet the needs of consumers and the requirements of the design brief.

- d. i.** Identify **two** aspects of the product development of the new enjoyo meal® product range that would have been evaluated by the company.

- ii.** Explain **one** benefit the company would gain as a result of the evaluation in part **i**.

2 + 2 = 4 marks

Total 18 marks

TURN OVER

Question 3



There is a wide variety of new and emerging foods now available in supermarkets including many functional foods such as this new range of Berri Breakfast time juices, which include

- vitamins A, C and fibre
- antioxidants
- vitamins A, C and folate.

a. i. Explain why this new range of Berri juices are considered a functional food.

ii. Identify and describe **one** technological development that can be used in the development of new foods.

1 + 2 = 3 marks

b. Discuss **one** possible marketing strategy that could be used in the promotion of this new range of juices.

2 marks

c. Outline **one** ethical consideration when marketing this new range of juices.

2 marks

Berri uses continuous processing to manufacture this product.

- d. i. Use the table below to draw comparisons between batch and continuous processing.

Batch processing	Continuous processing

- ii. Explain why the continuous system is suitable for manufacturing the juices.

4 + 2 = 6 marks

Berri Breakfast time juices are line extensions to the original range of Berri juices.

- e. Identify another type of product development and explain how it differs from line extensions.

2 marks

Food Standards Australia New Zealand (FSANZ) protects the health and safety of people in Australia and New Zealand by maintaining a safe food supply.

- f. Outline **two** roles of FSANZ in ensuring a safe food supply.

Role 1 _____

Role 2 _____

4 marks

Total 19 marks

TURN OVER

Question 4

Fresh Soups & Salads is a new business that will serve a small range of soups and salads in their café. Currently they have only one small store where they produce and serve their food. They also have recently decided to sell a small range of takeaway packaged soups. Their aim is to eventually produce their packaged products on a larger scale and export them overseas.

a. Identify the level of government that would be responsible for each of the following.

i. Regulation of any soup products to be exported

ii. Inspection of the Fresh Soups & Salads premises prior to opening

iii. Developing the health acts which outline the regulations that Fresh Soups & Salads must follow when setting up their premises

3 marks

b. Outline **two** functions of the packaging of the soups.

Function 1 _____

Function 2 _____

4 marks

Fresh Soups & Salads have decided to use Aseptic packaging to package their soups.

c. i. Describe the process of Aseptic packaging.

ii. Identify **one** reason why they may have selected this packaging system.

2 + 1 = 3 marks

All food premises must have a Hazard Analysis Critical Control Points (HACCP) system in place.

d. i. Explain what a HACCP system is.

There are seven key steps in a HACCP program.

1. Hazards analysis
2. Identify the critical control points
3. Set the critical limits for each critical control point
4. Monitor the critical control points
5. Establish corrective actions
6. Set up records
7. Verify that the HACCP system is working correctly

ii. Select **two** of these steps and explain, using examples, why each is important.

Step _____

Explanation _____

Step _____

Explanation _____

2 + 4 = 6 marks

The following is a recipe for a Tandoori Lamb Salad that will be sold at the Fresh Soups & Salads café.

Tandoori Lamb Salad

Ingredients

200 g lamb fillet

1 tablespoon tandoori spice paste

2 cups salad mix (lettuce, cherry tomato, red onion, carrot, cucumber, yellow capsicum)

2 tablespoons Greek yoghurt

Method

- Coat the lamb fillets with Tandoori paste and marinade for at least 3 hours.
- Prepare salad mix (may be prepared in advance).
- Grill lamb fillets.
- Allow lamb to rest.
- Slice the lamb fillets and place the salad mix onto a plate.
- Arrange the lamb on top of the salad and top with yoghurt.

e. Complete the following table to identify the critical control points in the recipe above.

Production stage	Explanation of potential hazard	Description of appropriate hygiene and safety practice
Storage of raw ingredients		
Preparation		
Cooking		

6 marks

Total 22 marks

Question 5

The owner of an apple orchard in Bacchus Marsh, Victoria, has asked you to produce a range of apple products that they can sell at the region's food and wine festival to showcase their apples.

Your design brief for the project outlines that you must produce a range of 4–6 products for tasting and sale at the food and wine festival. The products must all contain apple as a key ingredient. There should be a range of sweet and savoury products to showcase the versatility of apples. All products should involve complex processes and be of a high quality.

- a. Identify **two** specifications from the brief.

Specification 1

Specification 2

2 marks

- b. Develop **two** criteria for evaluation from the brief.

Criterion 1

Criterion 2

2 marks

The following range of products have been proposed as appropriate apple-based foods to sell at the food and wine festival. The preparation of these products includes a variety of complex processes.

- Apple cake – creaming method of cake making
- Apple jelly preserve – jam making
- Apple pie – pastry making
- Spicy apple chutney – chutney making

- c. Select **one** of the products from the list above and explain the complex process involved in producing the product.

Product selected _____

Explanation of complex process _____

2 marks

- d.** Describe **one** health and safety practice to follow when implementing the complex process identified in part **c**.

2 marks

- e.** Identify a functional ingredient that is used to produce the selected product and explain the role of that functional ingredient.

3 marks

- f.** Identify a preservation technique that could extend the shelf life of the product selected. Explain how the preservation technique is able to extend the shelf life of the product selected.

Preservation technique _____

Explanation _____

2 marks

- g.** The owners of the Bacchus Marsh apple orchard want to ensure that the products they sell at the region's food and wine festival are as good as similar products consumers would be able to purchase in other commercial outlets.
- i.** Identify and describe a property of the selected product that could be compared with a commercial product.

- ii.** Outline a test that could be used to compare these properties with a commercial product.

2 + 2 = 4 marks

Total 17 marks